

What is claimed is:

1. A semiconductor device comprising:

a first rewritable nonvolatile storage unit for storing data;

a second rewritable nonvolatile storage unit for holding security information that determines permission or prohibition of outputting to outside of the data stored in the first storage unit;

a first controller for specifying a storage region in the first storage unit to read the stored data from the specified storage region in the first storage unit;

a first path extending to the first controller from the first storage unit for transmitting the data from the specified storage region of the first storage unit to the first controller, thereby allowing the first controller to perform control processing based on the data transmitted via the first path;

a second path extending to the outside from the first storage unit; and

a second controller provided in the second path for controlling outputting of the data to the outside from the specified storage region of the first storage unit based on the security information.

2. The semiconductor device according to claim 1, wherein the first storage unit comprises a plurality of storage blocks to store the data, and the second storage unit holds the security information for the respective storage blocks of the first storage unit.

3. The semiconductor device according to claim 1 further comprising:

a first selector for selecting a first address signal and a first control signal which are both supplied from the outside when a test mode is set and for selecting a second address signal and a second control signal which are both supplied from the first controller when a normal mode is set, thereby supplying the selected address signal and control signal to the first and second storage units; and

a second selector for selecting write data supplied from the outside when the test mode is set and for selecting output data supplied from the first controller when the normal mode is set, thereby supplying the selected data to the first storage unit.

4. The semiconductor device according to claim 1, wherein the first storage unit is a first flash memory, and the second storage unit is a second flash memory.

5. The semiconductor device according to claim 1, wherein the second controller is a tri-state buffer.

6. A semiconductor device comprising:

a first rewritable nonvolatile storage unit for storing data, the first storage unit including a plurality of storage blocks;

a second rewritable nonvolatile storage unit for holding security information that determines permission or prohibition of outputting to outside of the data stored in the respective storage blocks of the first storage unit;

a control processing unit for reading the data from a designated one of the plurality of storage blocks of the first storage unit, the control processing unit having a test function so that the control processing unit scans internal state information based on a test signal when the test signal instructs a boundary scan test and the test signal is serially supplied to the control processing unit from the outside, and then the control processing unit outputs the internal state information as serial data;

a first path extending to the control processing unit from the first storage unit for transmitting the data to the control processing unit from the designated storage block of the first storage unit to the control processing unit, thereby allowing the control processing unit to perform control processing based on the data supplied via the first path;

a first selector for selecting a first address signal and a first control signal which are supplied from the outside when a memory test mode is instructed to the first selector, and for selecting a second address signal and a second control signal which are supplied from the control processing unit when a normal mode or boundary scan test is instructed to the first selector, thereby supplying the selected address and control signals to the first and second storage units;

a second selector for selecting write data which is supplied from the outside when the memory test mode is instructed to the second selector and for selecting output data which is supplied from the control processing unit when the

normal mode or boundary scan test is instructed to the second selector, thereby supplying the selected data to the first storage unit;

a first data output controller provided in the first path for outputting the data read from the designated storage block of the first storage unit to the control processing unit irrespective of the security setting on the designated storage block when the normal mode is instructed, and for controlling outputting of the data to the control processing unit from the designated storage block of the first storage unit based on the security setting on the designated storage block when a boundary scan test is instructed;

a second path extending to the outside from the first storage unit; and

a second data output controller provided in the second path for controlling of outputting of the data from the designated storage block of the first storage unit to the outside based on the security setting on the designated storage block.

7. The semiconductor device according to claim 6, wherein the first storage unit is a first array of memory cells, and the second storage unit is a second array of memory cells.

8. The semiconductor device according to claim 6, wherein the first data output controller is a first tri-state buffer and the second data output controller is a second tri-state buffer.

9. A semiconductor device comprising:

first rewritable nonvolatile storage means for storing

data;

second rewritable nonvolatile storage means for holding security information that determines feasibility of outputting to outside of the data stored in the first storage means;

control processing means for specifying a storage region in the first storage means to read the stored data from the specified storage region in the first storage means;

a first path extending to the control processing means from the first storage means for transmitting the data from the specified storage region of the first storage means to the control processing means, thereby allowing the control processing means to perform control processing based on the data transmitted via the first path;

a second path extending to the outside from the first storage means; and

output means provided in the second path for controlling outputting of the data to the outside from the specified storage region of the first storage means based on the security information.

10. The semiconductor device according to claim 9, wherein the first storage means comprises a plurality of storage blocks to store the data, and the second storage means holds the security information for the respective storage blocks of the first storage means.

11. The semiconductor device according to claim 9 further comprising:

first selection means for selecting a first address signal

and a first control signal which are both supplied from the outside when a test mode is set and for selecting a second address signal and a second control signal which are both supplied from the control processing means when a normal mode is set, thereby supplying the selected address signal and control signal to the first and second storage means; and

second selection means for selecting write data which is supplied from the outside when the test mode is set and for selecting output data which is supplied from the control processing means when the normal mode is set, thereby supplying the selected data to the first storage means.

12. The semiconductor device according to claim 9, wherein the first storage means is a first flash memory, and the second storage means is a second flash memory.

13. The semiconductor device according to claim 9, wherein the output means is a tri-state buffer.